F - Frozen
D - Dry
O - Obstructed
I - Inaccessable
L - Lost In Shipment
NT - Not Taken

CV Spur
1986
Quarterly

Station	3/21	5/12	9/23	10/2							
CV-0	2 D	1 D									
CV-2	D	D	D	D							
CV-3	D										
CV-4											
CV-5			O	D							
CV-6											
CV-7	D	D	D	D							
CV-8	O	O	O	O							
CV-9	D	D	D	D							
CV-10	O	O	D	D							
CV-11											
CV-12			D								
CV-13	D	D	D	D							
CV-14											
CV-15	(Monthly) - No Discharge in 1986										

BEAVER CREEK Coal Company
Post Office Box 1378
Price, Utah 84501
Telephone 801 637-5050

March 31, 1987

Mr. Lowell Braxton
Administrator
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: 1986 Annual Report
C.V. Spur Loadout Facility
ACT/007/022
Carbon County, Utah

Dear Mr. Braxton:

Enclosed is the Annual Report for Coal Mining and Reclamation Operations for 1986 for C.V. Spur.

If you have any questions or need any further information, please let me know.

Respectfully,

Dan W. Guy

Dan W. Guy,
Manager, Permitting & Compliance

DWG/rs

cc: R.J. Marshall
File 4-P-4-1-1

COAL MINING AND RECLAMATION OPERATIONS FOR 1986

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203
(801) 538-5340

Operator: Beaver Creek Coal Company
Mine Name: C.V. Spur Processing and Loadout Facility
Mailing Address: P.O. Box 1378, Price, Utah 84501
Company Representative: Dan W. Guy
Permit No.: ACT/007/022
Date of Permanent Program Permit: 8/6/84
Quantity of Coal processed (tonnage) 1986: 537,003.14 (Net clean)
23,259.16 (Sub-standard)

Attach most recent certificate of insurance. N/A

Attach updated mine sequence map. (Included - See subsidence maps)

All monitoring activities during the report period must be submitted with this report: (including, but not limited to)

A. Water Monitoring Data (Included)

B. Precipitation Data (Included)

C. Subsidence Monitoring (Included)

D. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final) (Included)

E. Permit Stipulation Status (Included)

F. Modifications / Amendments (Included)

G. Notifications (Included)

C.V. SPUR

CERTIFICATES OF INSURANCE

INA

GROUP OF INSURANCE COMPANIES

CERTIFICATE OF INSURANCE

Figure 2-1

(This Certificate of Insurance neither affirmatively nor negatively amends, extends or alters the coverage, limits, terms or conditions of the policies it certificates.)

This is to Certify to

State of Utah
Dept. of Oil, Gas & Mining
1589 West North Temple
Salt Lake City, Utah 84116

COMPANY CODES

- [2] INA UNDERWRITERS INS. CO.
- [3] INA OF TEXAS
- [5] PACIFIC EMPLOYERS INS. CO.
- [9] INSURANCE COMPANY OF NORTH AMERICA
- [A] INA INS. CO. OF ILLINOIS
- [B] INA INS. CO. OF OHIO
- [ ] (OTHER; – SPECIFY)

that the following described policy or policies, issued by The Company as coded below, providing insurance only for hazards checked by "X" below, have been issued to:

NAME AND ADDRESS OF INSURED: Atlantic Richfield Company, Its subsidiaries and subsidiaries thereof as now or hereinafter constituted, Atlantic Richfield Plaza, 515 So. Flower St, Los Angeles, CA 90071

covering in accordance with the terms thereof, at the following location(s):

Including Beaver Creek Coal Company

TYPE OF POLICY	HAZARDS	CO. CODE	POLICY NUMBER	POLICY PERIOD	LIMITS OF LIABILITY
(a) Standard Workmen's Compensation & Employers' Liability	[ ]	[ ]			$ Statutory W. C. / One Accident and / Aggregate Disease
(b) General Liability — Bodily Injury: Premises—Operations (including "Incidental Contracts" as defined below)	[X]	[9]	SCG 1440	01-01-81 to 01-01-84	$ Each Person; $ *See Below Each [ ] Accident [ ] Occurrence
Bodily Injury: Independent Contractors	[X]	[9]			
Bodily Injury: Completed Operations/Products	[X]	[9]			
Bodily Injury: Contractual, (Specific type as described in footnote below)	[X]	[9]			$ Aggregate—Completed Operations/Products
Property Damage: Premises—Operations (Including "Incidental Contracts" as defined below)	[X]	[9]	SCG 1440	01-01-81 to 01-01-84	$ Each [ ] Accident [ ] Occurrence; $ *See Below Aggregate—Prem./Oper.; $ Aggregate—Protective
Property Damage: Independent Contractors	[X]	[9]			
Property Damage: Completed Operations/Products	[X]	[9]			$ Aggregate—Completed Operations/Products
Property Damage: Contractual, (Specific type as described in footnote below)	[X]	[9]			$ Aggregate—Contractual
(c) Automobile Liability — Bodily Injury: Owned Automobiles	[X]	[9]	SCA 5343	01-01-81 to 01-01-84	$ Each Person; $ Each [ ] Accident [ ] Occurrence
Bodily Injury: Hired Automobiles	[X]	[9]			
Bodily Injury: Non-owned Automobiles	[X]	[9]			
Property Damage: Owned Automobiles	[X]	[9]	SCA 5343	01-01-81 to 01-01-84	$ Each [ ] Accident [ ] Occurrence
Property Damage: Hired Automobiles	[X]	[9]			
Property Damage: Non-owned Automobiles	[X]	[9]			
(d) See reverse side for additional wording					* $2,000,000 Combined Single Limit per occurrence subject to aggregate of $2,000,000 where applicable. This Policy covers all operations in all States.

Contractual Footnote: Subject to all the policy terms applicable, specific contractual coverage is provided as respects

(Check Applicable Block) [ ] a contract [ ] purchase order agreements [ ] all contracts between the Insured and:

It is the intention of the company that in the event of cancellatio the policy or policies by the company, ten (10) days' written n of such cancellation will be given to you at the address stated abo

NAME OF OTHER PARTY | DATE (if applicable) | CONTRACT NO. (if any)

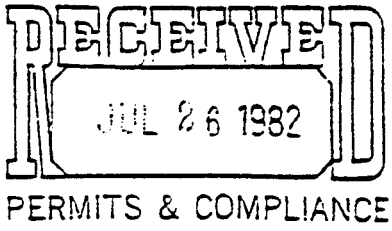
DESCRIPTION (OR JOB)

Definitions: "Incidental contract" means any written (1) lease of premises (2) easement agreement, except in connection with construction or demolition o tions on or adjacent to a railroad, (3) undertaking to indemnify a municipality required by municipal ordinance, except in connection with wo the municipality, (4) sidetrack agreement, or (5) elevator maintenance agreement.

Coverage includes use of explosives and damage to water wells. It is hereby understood and agreed that the insurers notify the State of Utah, Division of Oil, Gas & Mining, whenever substantive changes are made in the policy, including any termination or failure to renew in accordance with UMC 806.14 (c).

AtlanticRichfieldCompany Finance
515 South Flower Street
Los Angeles, California 90071
Telephone 213 486 1374

H. A. Minehart
Risk Manager



July 22, 1982

State of Utah
Division of Oil, Gas and Mining
Utah Department of Natural Resources
4241 State Office Building
Salt Lake City, UT 84114

Attention: Mr. James W. Smith, Jr.
Coordinator, Mined Land Development

Gentlemen:

With respect to our Certificate of Insurance issued to your office on March 9, 1981, with an expiration date of January 1, 1984, please be advised that the General Liability Insurance will be renewed on January 1, 1984, for another three-year period, at which time a new Certificate will be furnished to the State of Utah, Division of Oil, Gas and Mining.

Very truly yours,

Myrna Cooke

MC:mhg

MR FORM 5

(Revised January 1983)
(Non-Federal)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES AND ENERGY
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, Utah 84114

RECEIVED

JUL 30 1984

DIVISION OF OIL
GAS & MINING

THE MINED LANDS RECLAMATION ACT

BOND

****

The undersigned Beaver Creek Coal Company as principal, and FEDERAL INSURANCE COMPANY as surety, hereby jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns unto the State of Utah, Division of Oil, Gas and Mining in the penal sum of Two Million, Seventeen Thousand, Six Hundred & Sixty Nine dollars ($2,017,669.00).

The principal estimated in a "Notice of Intention to Commence Mining Operations and a Mining and Reclamation Plan," filed with the Division of Oil, Gas and Mining on the 23rd day of September 1983, that 160.0 acres of land will be affected by this mining operation in the State of Utah. A description of the affected land is attached hereto as Exhibit "A."

If the principal shall satisfactorily reclaim the above-mentioned land affected by mining by the said principal in accordance with the Mining and Reclamation Plan and shall faithfully perform all requirements of the Mined Land Reclamation Act, and comply with the Rules and Regulations adopted in accordance therewith, then this obligation shall be void; otherwise it shall remain in full force and effect until the reclamation is completed as outlined in the approved Mining and Reclamation Plan.

If the approved plan provides for reclamation of the land affected on a piecemeal or cyclic basis, and the land is reclaimed in accordance with such plan, then this bond may be reduced periodically.

In the converse, if the plan provides for a gradual increase in the area of the land affected or increased reclamation work, then this bond may accordingly be increased with the written approval of the surety company.

NOTE: Where one signs by virtue of Power of Attorney for a surety company, such Power of Attorney must be filed with this bond. If the principal is a corporation, the bond shall be executed by its duly authorized officers with the seal of the corporation affixed.

Beaver Creek Coal Company
Principal (Company)

By _____
Company Official - Position
J.A. Herickhoff
General Manager

Date: July 30, 1984

FEDERAL INSURANCE COMPANY
Surety (Company)

By _____
Official of Surety - Position
Norman D. Squires, Attorney-in-Fact
447 East First South
Salt Lake City, Utah 84111

DATE: July 30, 1984

STATE OF UTAH
County of Salt Lake } ss.:

On this 30th day of July in the year nineteen hundre
eighty-four, A. D., before me, Mary Cristaudo, a Notary Public in and for th
County of Salt Lake, State of Utah, residing therein, duly commissioned and
personally appeared Norman D. Squires
known to me to be the Attorney(s) in Fact of Federal Insurance Company execut
annexed instrument, and acknowledged to me that such Corporation executed the

IN WITNESS WHEREOF, I have hereunto set my hand and affixed by offic
in said county the day and year in this certificate first above written.

Mary Cristaudo

Notary Public in and for the County of Salt Lake, State
My Commission Expires July 4, 1987

My Commission expires

PRINTED IN U. S. A.

Form 15-10-9E (Formerly SF 671)

C.V. SPUR PROCESSING & LOADOUT FACILITY

Exhibit A

Affected Area

SW¼, Section 11, T. 15S., R. 10E., SLM, Utah
(160 Acres, more or less)

POWER OF ATTORNEY

Know all Men by these Presents, That the FEDERAL INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New Je
tion, has constituted and appointed, and does hereby constitute and appoint Norman D. Squires, Richard G. Taylor and
George L. Williams, Salt Lake City, Utah

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and o
surety thereon or otherwise, bonds of any of the following classes, to-wit:

1. Bonds and Undertakings filed in any suit, matter or proceeding in any Court, or filed with any Sheriff or Magistrate, for the doing or not doi
specified in such Bond or Undertaking.

2. Surety bonds to the United States of America or any agency thereof, including those required or permitted under the laws or regulations relat
of Internal Revenue; License and Permit Bonds or other indemnity bonds under the laws, ordinances or regulations of any State, City,
Board or other body or organization, public or private; bonds to Transportation Companies, Lost Instrument bonds; Lease bonds, Worke
tion bonds, Miscellaneous Surety bonds and bonds on behalf of Notaries Public, Sheriffs, Deputy Sheriffs and similar public officials.

3. Bonds on behalf of contractors in connection with bids, proposals or contracts.

In Witness Whereof, the said FEDERAL INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Assistant Vice-Presidents and Assistant
corporate seal to be hereto affixed this 12th day of December 19 83

Corporate Seal

Richard D. O'Connor
Assistant Secretary

FEDERAL INSURANCE COMPANY
By

George McClellan
Assistant Vice-President

STATE OF NEW JERSEY
County of Somerset } ss.

On this 12th day of December 19 83, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretar
SURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he
of the FEDERAL INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by a
of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the A
of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed
By-Laws and in deponent's presence.

Notarial Seal

Acknowledged and Sworn to before me
on the date above written.

Notary Public

CERTIFICATION

ALICE LEONARD
NOTARY PUBLIC OF NEW JERSEY.
My Commission Expires June 22, 1988

STATE OF NEW JERSEY
County of Somerset } ss.

I, the undersigned, Assistant Secretary of the FEDERAL INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted
on March 11, 1959 and most recently amended March 11, 1983 and that this By-Law is in full force and effect:

"ARTICLE XVIII

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to ex
and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or
Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive
or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or
or a Vice-President or an Assistant Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engra
or lithographed."

I further certify that said FEDERAL INSURANCE COMPANY is duly licensed to transact fidelity and surety business in each of the States of the United States of America, District of Columbia, F
Provinces of Canada with the exception of Prince Edward Island, and is also duly licensed to become sole surety on bonds, undertakings, etc., permitted or required by law.

I, the undersigned Assistant Secretary of FEDERAL INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney is in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 30th day of July 19 84

Corporate Seal

Assistant Secretary

C.V. SPUR

1986

WATER MONITORING DATA

Water Monitoring Data 1986

CV Spur

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-1W
Date Sampled: 10/02/86 @1220
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3748

Lab pH:	8.0
Lab Conductivity, umhos/cm @ 25C	7630
Total Dissolved Solids (180), mg/l	7080
Total Dissolved Solids (calc), mg/l	6710
Total Suspended Solids, mg/l	1.0
Nitrate + Nitrite as "N", mg/l	0.01
Sodium Adsorption Ratio	16.15
Total Alkalinity as CaCO3, mg/l	234
Total Hardness as CaCO3, mg/l	1680

Flow 18 gpm
Temp 12
pH 8
Cond 7500
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	285	4.68
Carbonate as CO3	0	0.00
Chloride	113	3.18
Sulfate	4400	91.73
Calcium	277	13.84
Magnesium	240	19.72
Potassium	13	0.33
Sodium	1520	66.16

Major Cations	100.05
Major Anions	99.59
Cation/Anion Difference	0.23 %

Trace Metals (Total Concentrations), mg/l

Iron	1.58
Manganese	0.08

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-1W
Date Sampled: 09/29/86 @ 1120
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3747

Lab pH	8.0
Lab Conductivity, umhos/cm @ 25C	7820
Total Dissolved Solids (180), mg/l	7070
Total Dissolved Solids (calc), mg/l	6750
Total Suspended Solids, mg/l	6.0
Nitrate + Nitrite as "N", mg/l	0.04
Sodium Adsorption Ratio	16.17
Total Alkalinity as CaCO3, mg/l	255
Total Hardness as CaCO3, mg/l	1670

Flow 64 gpm
Temp 12
pH 8
Cond 7000
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	311	5.10
Carbonate as CO3	0	0.00
Chloride	138	3.89
Sulfate	4420	91.99
Calcium	267	13.32
Magnesium	244	20.05
Potassium	13	0.33
Sodium	1520	66.03

Major Cations	99.73
Major Anions	100.98
Cation/Anion Difference	0.62 %

Trace Metals (Total Concentrations), mg/l

Iron	1.06
Manganese	0.15

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2377

Sample Site: French Drain CU-0
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.6
Lab Conductivity, umhos/cm	15000
Total Dissolved Solids (180), mg/l	15300
Total Dissolved Solids (calc), mg/l	15400
Total Suspended Solids, mg/l	10
Nitrate + Nitrite as "N", mg/l	2.83
Sodium Adsorption Ratio	31.6
Total Alkalinity as CaCO3, mg/l	409
Total Hardness as CaCO3, mg/l	2830

Flow NA
Temp 4
pH 7.5
Cond 10,000+
D.O. NA

	MG/L	MEQ/L
Bicarbonate as HCO3	499	8.17
Carbonate as CO3	0.0	0.00
Chloride	211	5.96
Sulfate	10200	212.78
Calcium	400	19.94
Magnesium	447	36.74
Potassium	26	0.66
Sodium	3870	168.33

Major Cations	225.67
Major Anions	226.91
Cation/Anion Difference	0.27%

Trace Metals (Total Concentrations), mg/l

Iron	1.83
Manganese	0.51

ACZ INC. Commercial Lab Division LABSAM Data Management System
04/07/86 Water Analysis Report 09:36
Page 1

ient : Beaver Creek Coal Company
Address : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: FRENCH DRAIN CV-O
Sample Date Time: 03/21/86 12:40

Lab No.: 86-WI/01339
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	470.	mg/l
Bicarbonate as CaCO3	470.	mg/l
Calcium, dissolved	340.	mg/l
Carbonate as CaCO3	0.	mg/l
Chloride	245.	mg/l
Conductivity @ 25C	7090.	umhos/cm
Fluoride	.48	mg/l
Hardness as CaCO3	2080.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	300.	mg/l
Nitrogen, nitrate	-.02	mg/l
pH (lab)	7.8	units
Potassium, dissolved	14.	mg/l
SAR in water	14.28	
Sodium, dissolved	1480.	mg/l
Sulfate	4124.	mg/l
Cations (sum)	107.08	meq/l
Anions (sum)	102.86	meq/l
Cation-Anion Balance	2.01	%
Solids, total dissolved	6352.	mg/l
Solids, total suspended	106.	mg/l
Iron, total	2.69	mg/l
Manganese, total	.42	mg/l

Remarks:

Ralph V. Poulsen

Ralph V. Poulsen, Director

Flow UK
Temp 10
pH 7.8
Cond 7100
D.O. NA

ACZ INC. Commercial Lab Division — LABSAM Data Management System
04/04/86 — Water Analysis Report — 13:09

Client : Beaver Creek Coal Company
Address : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: CV-4
Sample Date Time: 03/21/86 12:00

Lab Nr.: 86-01-01334
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	648.	mg/l
Bicarbonate as CaCO3	648.	mg/l
Calcium, dissolved	454.	mg/l
Carbonate as CaCO3	0.	mg/l
Chloride	136.	mg/l
Conductivity @ 25C	9100.	micromhos/cm
Fluoride	2.70	mg/l
Hardness as CaCO3	2709.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	384.	mg/l
Nitrogen, nitrate	.08	mg/l
pH (lab)	7.6	units
Potassium, dissolved	4.	mg/l
SAR in water	18.17	
Sodium, dissolved	2150.	mg/l
Sulfate	5931.	mg/l
Cations (sum)	148.88	meq/l
Anions (sum)	141.32	meq/l
Cation-Anion Balance	2.61	%
Solids, total dissolved	9060.	mg/l
Solids, total suspended	296.	mg/l
Iron, total	9.45	mg/l
Manganese, total	.11	mg/l

Remarks:

Ralph V. Poulsen
Ralph U. Poulsen, Director

Flow 4' fs
Temp 6
pH 7.8
Cond 9000
D.O. NA

Client : Beaver Creek Coal Company
Address : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: CV-5
Sample Date Time: 03/21/86 11:15

Lab No.: SA-M1/01335
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	208.	mg/l
Bicarbonate as CaCO3	200.	mg/l
Calcium, dissolved	411.	mg/l
Carbonate as CaCO3	8.	mg/l
Chloride	198.	mg/l
Conductivity @ 25C	18400.	umhos/cm
Fluoride	1.62	mg/l
Hardness as CaCO3	3242.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	540.	mg/l
Nitrogen, nitrate	.48	mg/l
pH (lab)	8.5	units
Potassium, dissolved	38.	mg/l
SAR in water	41.27	
Sodium, dissolved	5340.	mg/l
Sulfate	1698.	mg/l
Cations (sum)	300.78	meq/l
Anions (sum)	45.36	meq/l
Cation-Anion Balance	73.79	%
Solids, total dissolved	19092.	mg/l
Solids, total suspended	34.	mg/l
Iron, total	1.11	mg/l
Manganese, total	.02	mg/l

Remarks:

Ralph V. Poulsen
Ralph V. Poulsen, Director

Flow 9! fs
Temp 6
pH 8.2
Cond 10,000+
D.O. NA

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-3W
Date Sampled: 10/02/86 @ 0740
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3749

Lab pH:	7.5
Lab Conductivity, umhos/cm @ 25C	4310
Total Dissolved Solids (180), mg/l	4260
Total Dissolved Solids (calc), mg/l	3970
Total Suspended Solids, mg/l	5530
Nitrate + Nitrite as "N", mg/l	0.19
Sodium Adsorption Ratio	5.04
Total Alkalinity as CaCO3, mg/l	270
Total Hardness as CaCO3, mg/l	1910

Flow 6' fs
Temp 13
pH 8
Cond 7500
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	329	5.39
Carbonate as CO3	0	0.00
Chloride	50	1.41
Sulfate	2600	54.18
Calcium	437	21.80
Magnesium	199	16.38
Potassium	15	0.38
Sodium	506	22.01

Major Cations	60.57
Major Anions	60.98
Cation/Anion Difference	0.34 %

Trace Metals (Total Concentrations), mg/l

Iron	162.
Manganese	2.25

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-3W
Date Sampled: 09/29/86 @ 0820
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3750

Lab pH:	7.6	Flow	6 fs
Lab Conductivity, umhos/cm @ 25C	4440		
Total Dissolved Solids (180), mg/l	4250	Temp	14
Total Dissolved Solids (calc), mg/l	3950		
Total Suspended Solids, mg/l	4020	pH	8
Nitrate + Nitrite as "N", mg/l	0.13		
Sodium Adsorption Ratio	5.03	Cond	4000
Total Alkalinity as CaCO3, mg/l	265		
Total Hardness as CaCO3, mg/l	1920	D.O.	NA

	mg/l	meq/l
Bicarbonate as HCO3	323	5.30
Carbonate as CO3	0	0.00
Chloride	49	1.38
Sulfate	2630	54.87
Calcium	442	22.04
Magnesium	198	16.28
Potassium	15	0.38
Sodium	506	22.01

Major Cations	60.71	
Major Anions	61.55	
Cation/Anion Difference	0.69	%

Trace Metals (Total Concentrations), mg/l

Iron	61.3
Manganese	1.02

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2366

Sample Site: CU-3W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.5
Lab Conductivity, umhos/cm	4000
Total Dissolved Solids (180), mg/l	3900
Total Dissolved Solids (calc), mg/l	3730
Total Suspended Solids, mg/l	2490
Nitrate + Nitrite as "N", mg/l	0.65
Sodium Adsorption Ratio	4.61
Total Alkalinity as CaCO3, mg/l	262
Total Hardness as CaCO3, mg/l	1860

Flow 6'FS
Temp 4
pH 8.2
Cond 4000
D.O. NA

	MG/L	MEQ/L
Bicarbonate as HCO3	320	5.24
Carbonate as CO3	0.0	0.00
Chloride	45	1.27
Sulfate	2430	50.66
Calcium	437	21.82
Magnesium	188	15.46
Potassium	12	0.31
Sodium	458	19.92

Major Cations	57.51
Major Anions	57.17
Cation/Anion Difference	0.30%

Trace Metals (Total Concentrations), mg/l

Iron	58.0
Manganese	2.03

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-4W
Date Sampled: 10/02/86 @ 1255
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3752

Lab pH:	7.2
Lab Conductivity, umhos/cm @ 25C	9920
Total Dissolved Solids (180), mg/l	9060
Total Dissolved Solids (calc), mg/l	9130
Total Suspended Solids, mg/l	8280
Nitrate + Nitrite as "N", mg/l	0.03
Sodium Adsorption Ratio	18.43
Total Alkalinity as CaCO3, mg/l	702
Total Hardness as CaCO3, mg/l	2370

Flow 15' fs
Temp 12
pH 7
Cond 10,000+
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	856	14.03
Carbonate as CO3	0	0.00
Chloride	98	2.76
Sulfate	5820	121.31
Calcium	365	18.21
Magnesium	356	29.25
Potassium	6	0.15
Sodium	2060	89.78

Major Cations	137.39
Major Anions	138.10
Cation/Anion Difference	0.26 %

Trace Metals (Total Concentrations), mg/l

Iron	562.
Manganese	6.03

Inter-Mountain Laboratories, Inc.

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Sample Site: CV-4W
Date Sampled: 09/29/86 @ 1140
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3751

Lab pH:	7.3
Lab Conductivity, umhos/cm @ 25C	9790
Total Dissolved Solids (180), mg/l	9140
Total Dissolved Solids (calc), mg/l	8990
Total Suspended Solids, mg/l	880
Nitrate + Nitrite as "N", mg/l	0.09
Sodium Adsorption Ratio	20.45
Total Alkalinity as CaCO3, mg/l	693
Total Hardness as CaCO3, mg/l	1950

Flow 12 fs
Temp 14
pH 7.3
Cond 9900
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	845	13.86
Carbonate as CO3	0	0.00
Chloride	97	2.74
Sulfate	5780	120.36
Calcium	366	18.25
Magnesium	252	20.72
Potassium	5	0.13
Sodium	2080	90.26

Major Cations	129.36
Major Anions	136.96
Cation/Anion Difference	2.85

Trace Metals (Total Concentrations), mg/l

Iron	4.89
Manganese	0.34

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Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2367

Sample Site: CU-4W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.7
Lab Conductivity, umhos/cm	9120
Total Dissolved Solids (180), mg/l	8750
Total Dissolved Solids (calc), mg/l	8200
Total Suspended Solids, mg/l	35
Nitrate + Nitrite as "N", mg/l	0.39
Sodium Adsorption Ratio	14.7
Total Alkalinity as CaCO3, mg/l	661
Total Hardness as CaCO3, mg/l	2520

Flow 8' fs
Temp 4
pH 8
Cond 8700
D.O. NA

	MG/L	MEQ/L
Bicarbonate as HCO3	806	13.22
Carbonate as CO3	0.0	0.00
Chloride	100	2.81
Sulfate	5250	109.39
Calcium	356	17.74
Magnesium	396	32.57
Potassium	4.4	0.11
Sodium	1700	73.94

Major Cations	124.36
Major Anions	125.42
Cation/Anion Difference	0.42%

Trace Metals (Total Concentrations), mg/l

Iron	0.56
Manganese	0.03

Inter-Mountain Laboratories, Inc.

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Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2368

Sample Site: CU-5W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.6
Lab Conductivity, umhos/cm	22200
Total Dissolved Solids (180), mg/l	24600
Total Dissolved Solids (calc), mg/l	23900
Total Suspended Solids, mg/l	112
Nitrate + Nitrite as "N", mg/l	0.44
Sodium Adsorption Ratio	34.5
Total Alkalinity as CaCO3, mg/l	936
Total Hardness as CaCO3, mg/l	5180

Flow 5' fs
Temp 6
pH 7.7
Cond 10,000+
D.O. NA

	MG/L	MEQ/L
Bicarbonate as HCO3	1140	18.72
Carbonate as CO3	0.0	0.00
Chloride	227	6.42
Sulfate	16000	333.14
Calcium	380	18.98
Magnesium	1030	84.54
Potassium	11	0.29
Sodium	5700	247.93

Major Cations	351.74
Major Anions	358.28
Cation/Anion Difference	0.92%

Trace Metals (Total Concentrations), mg/l

Iron	2.36
Manganese	0.65

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-6W
Date Sampled: 10/02/86 @ 1200
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3754

Lab pH:	7.3	Flow	1.3 FS
Lab Conductivity, umhos/cm @ 25C	2820		
Total Dissolved Solids (180), mg/l	1990	Temp	12
Total Dissolved Solids (calc), mg/l	2030		
Total Suspended Solids, mg/l	236	pH	7.1
Nitrate + Nitrite as "N", mg/l	0.33		
Sodium Adsorption Ratio	7.34	Cond	2800
Total Alkalinity as CaCO3, mg/l	81		
Total Hardness as CaCO3, mg/l	623	D.O.	NA

	mg/l	meq/l
Bicarbonate as HCO3	99	1.62
Carbonate as CO3	0	0.00
Chloride	29	0.82
Sulfate	1310	27.26
Calcium	150	7.49
Magnesium	60	4.97
Potassium	12	0.31
Sodium	421	18.31

Major Cations	31.08
Major Anions	29.70
Cation/Anion Difference	2.27 %

Trace Metals (Total Concentrations), mg/l

Iron	2.46
Manganese	0.04

Inter-Mountain Laboratories, Inc.

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Tel. (505) 326-4737

Sample Site: CV-6W
Date Sampled: 09/29/86 @ 1040
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3753

Lab pH	7.4
Lab Conductivity, umhos/cm @ 25C	8810
Total Dissolved Solids (180), mg/l	7910
Total Dissolved Solids (calc), mg/l	7860
Total Suspended Solids, mg/l	1310
Nitrate + Nitrite as "N", mg/l	0.38
Sodium Adsorption Ratio	24.69
Total Alkalinity as CaCO3, mg/l	216
Total Hardness as CaCO3, mg/l	1240

Flow 6" FS
Temp 14
pH 7.4
Cond 8500
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	263	4.31
Carbonate as CO3	0	0.00
Chloride	62	1.76
Sulfate	5250	109.39
Calcium	241	12.04
Magnesium	155	12.79
Potassium	21	0.54
Sodium	2000	86.99

Major Cations	112.36
Major Anions	115.46
Cation/Anion Difference	1.36 %

Trace Metals (Total Concentrations), mg/l

Iron	126.
Manganese	0.31

Inter-Mountain Laboratories, Inc.

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Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: P2369

Sample Site: CU-6W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.6
Lab Conductivity, umhos/cm	2840
Total Dissolved Solids (180), mg/l	2370
Total Dissolved Solids (calc), mg/l	2290
Total Suspended Solids, mg/l	260
Nitrate + Nitrite as "N", mg/l	2.99
Sodium Adsorption Ratio	6.52
Total Alkalinity as CaCO3, mg/l	69
Total Hardness as CaCO3, mg/l	781

	MG/L	MEQ/L
Bicarbonate as HCO3	84	1.38
Carbonate as CO3	0.0	0.00
Chloride	50	1.40
Sulfate	1500	31.20
Calcium	193	9.63
Magnesium	73	5.99
Potassium	13.3	0.34
Sodium	419	18.22

Major Cations	34.18
Major Anions	33.98
Cation/Anion Difference	0.29%

Trace Metals (Total Concentrations), mg/l

Iron	3.23
Manganese	0.17

Flow	2' FS
Temp	6
pH	7.8
Cond	3000
D.O.	NA

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-11W
Date Sampled: 10/02/86 @ 1518
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3756

Lab pH	8.0	Flow	3.5
Lab Conductivity, umhos/cm @ 25C	36100		
Total Dissolved Solids (180), mg/l	47400	Temp	11
Total Dissolved Solids (calc), mg/l	46100		
Total Suspended Solids, mg/l	128	pH	8
Nitrate + Nitrite as "N", mg/l	0.16		
Sodium Adsorption Ratio	44.88	Cond	10,000+
Total Alkalinity as CaCO3, mg/l	655		
Total Hardness as CaCO3, mg/l	10400	D.O.	NA

	mg/l	meq/l
Bicarbonate as HCO3	798	13.09
Carbonate as CO3	0	0.00
Chloride	255	7.20
Sulfate	32200	670.92
Calcium	395	19.71
Magnesium	2300	188.87
Potassium	15	0.39
Sodium	10500	458.31

Major Cations	667.28
Major Anions	691.21
Cation/Anion Difference	1.76 %

Trace Metals (Total Concentrations), mg/l

Iron	5.74
Manganese	0.98

Inter-Mountain Laboratories, Inc.

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Sample Site: CV-11W
Date Sampled: 09/29/86 @ 1345
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3755

Lab pH	8.0
Lab Conductivity, umhos/cm @ 25C	36500
Total Dissolved Solids (180), mg/l	48400
Total Dissolved Solids (calc), mg/l	46000
Total Suspended Solids, mg/l	236
Nitrate + Nitrite as "N", mg/l	0.16
Sodium Adsorption Ratio	44.26
Total Alkalinity as CaCO3, mg/l	655
Total Hardness as CaCO3, mg/l	10500

Flow 3' FS
Temp 10
pH 8.2
Cond 10,000+
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	799	13.10
Carbonate as CO3	0	0.00
Chloride	260	7.34
Sulfate	32200	669.89
Calcium	395	19.71
Magnesium	2320	190.37
Potassium	15	0.39
Sodium	10400	453.65

Major Cations	664.12
Major Anions	690.33
Cation/Anion Difference	1.94 %

Trace Metals (Total Concentrations), mg/l

Iron	4.73
Manganese	0.99

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2370

Sample Site: CU-11W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.7
Lab Conductivity, umhos/cm	33500
Total Dissolved Solids (180), mg/l	42400
Total Dissolved Solids (calc), mg/l	41700
Total Suspended Solids, mg/l	240
Nitrate + Nitrite as "N", mg/l	0.80
Sodium Adsorption Ratio	44.6
Total Alkalinity as CaCO3, mg/l	544
Total Hardness as CaCO3, mg/l	9320

	MG/L	MEQ/L
Bicarbonate as HCO3	664	10.88
Carbonate as CO3	0.0	0.00
Chloride	197	5.55
Sulfate	28800	599.59
Calcium	412	20.58
Magnesium	2020	165.81
Potassium	24	0.61
Sodium	9900	430.62

Major Cations	617.62
Major Anions	616.02
Cation/Anion Difference	0.13%

Trace Metals (Total Concentrations), mg/l

Iron	5.48
Manganese	0.78

Flow	3.5 FS
Temp	7
pH	7.7
Cond	10,000+
D.O.	NA

AGZ INC. Commercial Lab Division LABSAM Data Management System
04/04/86 Water Analysis Report 13:30
Page 1

Client : Beaver Creek Coal Company
Address : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: CV-11W
Sample Date Time: 03/21/86 13:48

Lab No.: 86-W1/01336
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	604.	mg/l
Bicarbonate as CaCO3	604.	mg/l
Calcium, dissolved	397.	mg/l
Carbonate as CaCO3	0.	mg/l
Chloride	201.	mg/l
Conductivity @ 25C	34100.	umhos/cm
Fluoride	.43	mg/l
Hardness as CaCO3	9684.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	2120.	mg/l
Nitrogen, nitrate	.32	mg/l
pH (lab)	8.0	units
Potassium, dissolved	24.	mg/l
SAR in water	48.73	
Sodium, dissolved	10900.	mg/l
Sulfate	31002.	mg/l
Cations (sum)	673.91	meq/l
Anions (sum)	668.29	meq/l
Cation-Anion Balance	.38	%
Solids, total dissolved	43810.	mg/l
Solids, total suspended	72.	mg/l
Iron, total	4.48	mg/l
Manganese, total	.85	mg/l

Remarks:

Ralph V. Poulsen
Ralph V. Poulsen, Director

Flow 28" FS
Temp 4
pH 8
Cond 10,000+
D.O. NA

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-12W
Date Sampled: 10/02/86 @ 1440
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3757

Lab pH:	7.3
Lab Conductivity, umhos/cm @ 25C	3140
Total Dissolved Solids (180), mg/l	3070
Total Dissolved Solids (calc), mg/l	2850
Total Suspended Solids, mg/l	12600
Nitrate + Nitrite as "N", mg/l	0.28
Sodium Adsorption Ratio	1.34
Total Alkalinity as CaCO3, mg/l	379
Total Hardness as CaCO3, mg/l	1900

Flow 10'FS
Temp 14
pH 7.2
Cond 3000
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	462	7.57
Carbonate as CO3	0	0.00
Chloride	29	0.82
Sulfate	1740	36.35
Calcium	507	25.32
Magnesium	154	12.68
Potassium	52	1.33
Sodium	134	5.83

Major Cations	45.16
Major Anions	44.74
Cation/Anion Difference	0.47 %

Trace Metals (Total Concentrations), mg/l

Iron	239.
Manganese	4.47

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box. 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2371

Sample Site: CU-12W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.2
Lab Conductivity, umhos/cm	3870
Total Dissolved Solids (180), mg/l	4130
Total Dissolved Solids (calc), mg/l	3660
Total Suspended Solids, mg/l	1130
Nitrate + Nitrite as "N", mg/l	0.58
Sodium Adsorption Ratio	0.74
Total Alkalinity as CaCO3, mg/l	576
Total Hardness as CaCO3, mg/l	2850

	MG/L	MEQ/L
Bicarbonate as HCO3	703	11.53
Carbonate as CO3	0.0	0.00
Chloride	28	0.79
Sulfate	2310	48.18
Calcium	488	24.38
Magnesium	397	32.68
Potassium	4.3	0.11
Sodium	91	3.96

Major Cations	61.13
Major Anions	60.50
Cation/Anion Difference	0.52%

Trace Metals (Total Concentrations), mg/l

Iron	4.15
Manganese	2.62

Flow	10' FS
Temp	4
pH	7
Cond	4000
D.O.	NA

lient : Beaver Creek Coal Company
Address : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: CV-12
Sample Date Time: 03/21/86 11:02

Lab No.: 86-WI-01337
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	568.	mg/l
Bicarbonate as CaCO3	568.	mg/l
Calcium, dissolved	570.	mg/l
Carbonate as CaCO3	0.	mg/l
Chloride	22.	mg/l
Conductivity @ 25C	3830.	umhos/cm
Fluoride	1.51	mg/l
Hardness as CaCO3	3196.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	432.	mg/l
Nitrogen, nitrate	-.02	mg/l
pH (lab)	7.3	units
Potassium, dissolved	4.	mg/l
SAR in water	.68	
Sodium, dissolved	87.	mg/l
Sulfate	2564.	mg/l
Cations (sum)	67.86	meq/l
Anions (sum)	65.82	meq/l
Cation-Anion Balance	1.53	%
Solids, total dissolved	4096.	mg/l
Solids, total suspended	4132.	mg/l
Iron, total	116.	mg/l
Manganese, total	5.00	mg/l

Remarks:

Ralph V. Poulsen

Ralph V. Poulsen, Director

Flow 8' FS

Temp 6

pH 7.2

Cond 4000

D.O. NA

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-14W
Date Sampled: 10/02/86 @ 1320
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3759

Lab pH	8.1
Lab Conductivity, umhos/cm @ 25C	5590
Total Dissolved Solids (180), mg/l	5280
Total Dissolved Solids (calc), mg/l	5080
Total Suspended Solids, mg/l	1.0
Nitrate + Nitrite as "N", mg/l	<0.01
Sodium Adsorption Ratio	9.52
Total Alkalinity as CaCO3, mg/l	276
Total Hardness as CaCO3, mg/l	1780

Flow 2.7 gpm
Temp 10
pH 8
Cond 5,500
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	336	5.51
Carbonate as CO3	0	0.00
Chloride	61	1.71
Sulfate	3350	69.78
Calcium	360	17.98
Magnesium	215	17.67
Potassium	11	0.28
Sodium	924	40.19

Major Cations	76.12
Major Anions	77.00
Cation/Anion Difference	0.57 %

Trace Metals (Total Concentrations), mg/l

Iron	0.24
Manganese	<0.02

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Sample Site: CV-14W
Date Sampled: 09/29/86 @ 1210
Date Received: 10/08/86

Date: 29 October, 1986
Mine: Beaver Creek
Lab No: F3758

Lab pH:	8.1
Lab Conductivity, umhos/cm @ 25C	5580
Total Dissolved Solids (180), mg/l	5280
Total Dissolved Solids (calc), mg/l	5020
Total Suspended Solids, mg/l	9.0
Nitrate + Nitrite as "N", mg/l	<0.01
Sodium Adsorption Ratio	9.30
Total Alkalinity as CaCO3, mg/l	274
Total Hardness as CaCO3, mg/l	1840

Flow 3.6 gpm
Temp 10
pH 8.1
Cond 5690
D.O. NA

	mg/l	meq/l
Bicarbonate as HCO3	334	5.48
Carbonate as CO3	0	0.00
Chloride	58	1.63
Sulfate	3340	69.53
Calcium	367	18.29
Magnesium	225	18.49
Potassium	11	0.28
Sodium	917	39.89

Major Cations	76.95
Major Anions	76.64
Cation/Anion Difference	0.20

Trace Metals (Total Concentrations), mg/l

Iron	0.29
Manganese	<0.02

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Beaver Creek Coal Co.
P.O. Box 1378
Price, UT 84501

Date: June 5, 1986
Re: Water Analysis
Laboratory No: F2372

Sample Site: CU-14W
Date Sampled: 5-12-86
Date Received: 5-23-86

Lab pH, s.u.	7.8
Lab Conductivity, umhos/cm	5130
Total Dissolved Solids (180), mg/l	4020
Total Dissolved Solids (calc), mg/l	3980
Total Suspended Solids, mg/l	69
Nitrate + Nitrite as "N", mg/l	0.48
Sodium Adsorption Ratio	0.14
Total Alkalinity as CaCO3, mg/l	262
Total Hardness as CaCO3, mg/l	1560

Flow 2.1 gpm
Temp 6
pH 8
Cond 5020
D.O. NA

	MG/L	MEQ/L
Bicarbonate as HCO3	320	5.24
Carbonate as CO3	0.0	0.00
Chloride	41	1.15
Sulfate	2600	54.27
Calcium	332	16.58
Magnesium	178	14.67
Potassium	12	0.31
Sodium	657	28.58

Major Cations	60.14
Major Anions	60.66
Cation/Anion Difference	0.43%

Trace Metals (Total Concentrations), mg/l

Iron	0.09
Manganese	<0.02

ACZ INC. Commercial Lab Division — LABSAM Data Management System
04/07/86 — Water Analysis Report — 09:35
Page 1

lient : Beaver Creek Coal Company
ddress : P.O. Box 1378
Price, Utah 84501
Attn. : Mr. Dan Guy; CC: Mr. Mel Coonrod
P.O. No.:

Sample ID: CV-14
Sample Date Time: 03/21/86 13:10

Lab No.: 86-WI/01338
Date Received: 03/24/86

Parameters

Alkalinity as CaCO3	284.	mg/l
Bicarbonate as CaCO3	284.	mg/l
Calcium, dissolved	366.	mg/l
Carbonate as CaCO3	0.	mg/l
Chloride	57.	mg/l
Conductivity @ 25C	6640.	umhos/cm
Fluoride	.52	mg/l
Hardness as CaCO3	1965.	mg/l
Hydroxide as CaCO3	0.	mg/l
Magnesium, dissolved	256.	mg/l
Nitrogen, nitrate	-.02	mg/l
pH (lab)	8.3	units
Potassium, dissolved	13.	mg/l
SAR in water	12.31	
Sodium, dissolved	1240.	mg/l
Sulfate	4252.	mg/l
Cations (sum)	94.19	meq/l
Anions (sum)	96.57	meq/l
Cation-Anion Balance	-1.25	%
Solids, total dissolved	6348.	mg/l
Solids, total suspended	10.	mg/l
Iron, total	.18	mg/l
Manganese, total	.04	mg/l

Remarks:

Ralph V. Poulsen

Ralph V. Poulsen, Director

Flow 1.2 gpm
Temp 9
pH 8.2
Cond 6348
D.O. NA

Beaver Creek Coal Company | Internal Correspondence

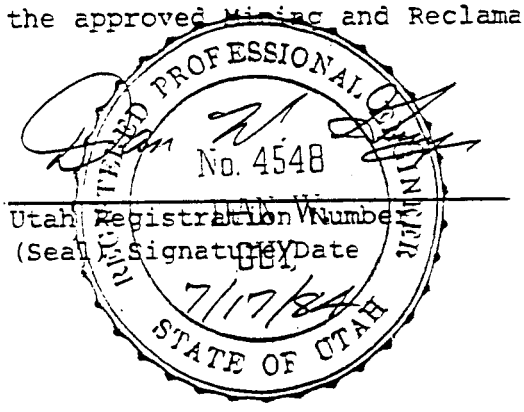
Date: July 17, 1984

Subject: Certification of Sediment Ponds

From/Location: D.W. Guy

To/Location: File

I, Dan W. Guy, a registered professional engineer State of Utah No. 4548, do hereby certify that the sediment control ponds at the Castle Valley Spur have been constructed in accordance with the plan and design criteria set forth in the approved Mining and Reclamation Plan.



Utah Registration Number

(Seal) Signature Date

7/17/84

C.V. SPUR

1986

PRECIPITATION DATA

BEAVER CREEK COAL COMPANY
RAIN GAUGE CHART

LOCATION CV SPUR

DATE	GAUGE READING	TIME INTERVAL	MEASURED BY	REMARKS
1-9-86	0.07	7:00 A.M	Carroll	
1-10-86	0.04	9:00 A.M	Carroll	
1-14-86	0.06	4:00 P.M	Carroll	
1-15-86	0.00	9:00 Am	Tony	
1-16-86	0.00	9:00 Am	Tony	
1-17-86	0.04	9:00 Am	Tony	
1-21-86	0.02	9:00 Am	Tony	3 Days Acc
1-22-86	0.00	9:00 Am	Tony	
1-23-86	0.00	9:00 Am	Tony	
1-24-86	0.00	9:00 Am	Tony	
1-28-86	0.13	7:00 AM	Jim	3 Days.
1-29-86	0.00	" "	"	
1-30-86	0.00	7:00 A.M	Jim	
5-1-86	0.00	7:00 A.M.	Jim	
5-5-86	0.00	7:00 A.M.	Jim	
5-6-86	0.00	7:00 A.M.	Jim	
5-7-86	0.00	7:00 A.M.	Jim	
5-8-86	0.06	7:00 AM.	Jim	
5-12-86	0.05	9:00 Am	Tony	3 Days
5-13-86	0.00	9:00 Am	Tony	
5-14-86	0.00	9:00 Am	Tony	
5-15-86	0.00	9:00 Am	Tony	
5-19-86	0.11	9:00 Am	Tony	3 Days
5-20-86	0.00	9:00 Am	Tony	
5-21-86	0.00	9:00 Am	Tony	
5-22-86	0.00	9:00 Am	Tony	
5-27-86	0.00	7:00 AM	Jim	

BEAVER CREEK COAL COMPANY
RAIN GAUGE CHART

LOCATION _____

DATE	GAUGE READING	TIME INTERVAL	MEASURED BY	REMARKS
5-28-86	0.00	7.00 AM.		Jim
5-29-86	0.00	7:00 AM.		Jim
6-2-86	0.00	7:00 AM		Jim
6-3-86	0.00	7:00 AM		Jim
6-4-86	0.16	8:30 AM.		Jim
6-5-86	0.01	9:00 AM		Jim
6-9-86	.00	9:00 Am		Tony
6-10-86	.09	9:00 Am		Tony
6-11-86	.00	9:00 Am		Tony
6-12-86	.00	9:00 Am		Tony
6-16-86	.00	9:00 Am	Tony	3 Days
6-17-86	.00	9:00 Am	Tony	
6-18-86	.00	9:00 Am	Tony	FROM 6-19-7
6-19-86	.00	9:00 Am	Tony	0.07
7-7-86	2. FROM 6-12- TO 7-9		Jim	So what Th
7-8-86	2. 0.07		Jim	Hell? It's Bee
7-9-86	2.		Jim	A Tough wee What can I Sa
7-14-86	0.00	9:00 AM	Jim	
7-15-86	0.00	9:00 AM	Jim	
7-16-86	0.20	9:00 AM	Jim	
7-17-86	0.66	8:00 AM	Jim	
7-21-86	0.13	9:00 Am	Tony	3 Days
7-22-86	0.00	9:00 Am	Tony	
7-23-86	0.16	9:00 Am	Tony	
7-24-86	0.16	9:00 Am	Tony	
7-28-86	-0.02	9:00 Am	Tony	5 Days
7-29-86	0.00	9:00 Am	Tony	

BEAVER CREEK COAL COMPANY
RAIN GAUGE CHART

LOCATION ________

DATE	GAUGE READING	TIME INTERVAL	MEASURED BY	REMARKS
8-6-86	0.42	745 AM	BB	

C.V. SPUR

PERMIT STIPULATION STATUS

BEAVER CREEK Coal Company
Post Office Box 1378
Price, Utah 84501
Telephone 801 637-5050

January 8, 1987

Mr. Lowell P. Braxton
Administrator
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Mid-Term Review
C.V. Spur Prep Plant
ACT/007/022, Folder #2
Carbon County, Utah

Dear Mr. Braxton:

Enclosed is the Beaver Creek Coal Company response to your 11/26/86 Mid-Term Review letter for C.V. Spur. Each of the following items are addressed in order of your review letter:

(1) UMC 817.42: Hydrologic Balance (JRF):

A revised water monitoring program and parameter list was submitted to the Division on 12/9/86. Beaver Creek Coal Company is working with the Division hydrologist to finalize this program, and will incorporate it into the M.R.P. upon approval.

(2) UMC 817.46 Hydrologic Balance (JRF):

Beaver Creek Coal Company has applied to the E.P.A. and State of Utah for a change in the C.V. Spur Discharge Permit to allow for discharge from the sediment pond. (See attached copy of letter).

In addition, Beaver Creek has and will continue to comply with the plan approval stipulation by re-establishing the required pond levels within the 30 day time period. The pond levels observed during the mid-term review inspection were the result of recent storms, and have since been lowered as required.

Since the wash plant is not operating, some problems will be encountered in absorbing excess (storm event and ground) water into the system for recirculation as was done previously; however, with the allowance for sediment pond discharge and continued pond maintenance and pumping, the permit stipultation will continue to be met.

(3) UMC 817.86 Coal Processing Waste (PGL):

A revised page 3-17, with the required change of wording from "combustible" to "incombustible", is enclosed.

(4) UMC 817.100 Contemporaneous Reclamation (KMM):

Beaver Creek Coal Company will be working with the Division to devise a revegetation test program in February and March, 1987. Revegetation of miscellaneous disturbed areas will be evaluated and incorporated with the test program at that time.

(5) UMC 817.111 Revegetation (KMM):

Beaver Creek Coal Company will meet with the Division in February, 1987 to work out the design aspects of a revegetation testing program. A program will be designed by March, 1987 and implemented during the 1987 field season.

It is our hope this response will meet with your approval. If you need any further information, please let me know.

Respectfully,

Dan W. Guy,
Manager Permitting/Compliance

DWG/rs

cc: Jay Marshall
File 4-P-4-1-1

3.2.3.3 Coal Processing Waste Disposal (continued)

Burning (continued)

engineer and the Environmental/Permitting Manager to determine the extinguishing method to be employed. The permitting manager or chief engineer shall contact the regulatory authority and MSHA to discuss a plan for extinguishing the fire. In lieu of other suggestions or plans, one of the following two methods will be used, depending upon the extent of the fire:

1. Small area of heat or fire: with a small area, it will be best to smother the fire by hauling incombustible earth material only from a previously soil-stripped zone and spreading and compacting the borrow over the burning area to eliminate the air supply.

2. Large area of heat or fire: With an area greater than 100 feet x 100 feet, it will be necessary to begin removal of the burning material. The removed material will be spread in thin layers onto a soil-stripped area for extinguishing. This area will be within that proposed for refuse disposal and pre-stripped as per the plan. Water will be employed only if the spreading material is not sufficient to prevent further burning. Once a fire is extinguished, a layer of incombustible material at least eighteen inches thick will be placed over the burned material and compacted before any further waste deposition takes place over it.

Only the plan supervisor and operators or others designated by him will be allowed to participate in fire extinguishing procedures. All authorized persons will be familiar with the above techniques prior to working around a fire, and adequate safety measures will be employed to ensure the safety of the fire fighters and the public in general.

BEAVER CREEK Coal Company
Post Office Box 1378
Price, Utah 84501
Telephone 801 637-5050

January 8, 1987

Mr. Bob Burm
Permit Section
U.S. Environmental Protection Agency
999 18th Street (8WM-C)
One Denver Place
Denver, Colorado 80202-2413

Re: NPDES Permit No. UT-0023949
C.V. Spur Preparation Facility
Beaver Creek Coal Company

Dear Mr. Burm:

Per our phone conversation of 1/7/87, I am submitting this letter as a request to have the above referenced permit modified to allow for discharge of disturbed area runoff.

The existing permit is based on an operating coal washing plant, and does not allow for discharge. The coal washing system of the plant was shut down in April, 1984. This closure was originally thought to be temporary, but is now considered permanent. There are five sedimentation ponds at C.V. Spur, all draining to a 3-cell filtering pond located at the northeast (lowest) corner of the property. When the wash plant was operating, it was possible to recirculate all runoff and plant overflow water back to the washing cycle. Since this is no longer possible, and since the sediment ponds are used for containment of disturbed area runoff as required by the Surface Mining Regulations, it has been recommended by the Utah Division of Oil, Gas & Mining that we apply for a modified permit to allow discharge.

The proposed outfall point would be the same as that shown on the existing permit for sediment pond discharge-001.

The existing permit expired on 12/31/86, and is presently under extension awaiting the redraft. It would save both time and effort if the redraft could be modified to allow for discharge of disturbed area runoff.

If you have any questions, or need any further information, please let me know.

Thank you for your help and cooperation.

Sincerely,

Dan W. Guy
Manager Permitting/Compliance

DWG/rs

cc: Mr. Steve McNeil, Utah Division of Health
Mr. Lowell Braxton, Utah Division of Oil, Gas & Mining
Mr. Jay Marshall, BCCC
File 4-P-4-3-1

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

November 26, 1986

CERTIFIED RETURN RECEIPT REQUESTED
(P 402 458 633)

Mr. Dan Guy, Manager
Permitting & Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Dan Guy:

RE: Mid-Term Review, C.V. Spur Prep Plant, Beaver Creek Coal Company, ACT/007/022, Folder #2, Carbon County, Utah

The Division staff has completed the initial portion of the C.V. Spur Mid-Term Review. Thank you for accommodating the staff during the mid-term review site visit on November 12, 1986.

Attached are several items which must be addressed by Beaver Creek Coal Company to complete the Mid-Term Review.

In order to achieve completion of the review within the time frames of my September 24, 1986 letter, would you please respond to these items by January 9, 1987.

Sincerely,

L. P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

JJW/djh
Attachments
cc: A. Klein, OSM
Tech Review Team "A"
0983R/1

MID-TERM REVIEW

Beaver Creek Coal Company
C. V. Spur Prep Plant
ACT/007/022, Carbon County, Utah

November 26, 1986

UMC 817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations (JRF)

Water quality parameters presented in the Annual Report and Division files do not reflect parameters to be sampled in the mine plan as noted on Table 7-15. The operator must update the C. V. Spur water quality monitoring program to agree with the Division's water quality guideline parameters.

The operator should analyze available data and consult with the Division on a revised monitoring plan utilizing the Division's guidelines.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds (JRF)

The C. V. Spur permit was granted with two stipulations; UMC 817.46(1-2) and UMC 817.48(1). Under stipulation 817.46(1) the operator was committed to re-establishing the 10-year, 24-hour storm runoff detention volumes in all ponds within 30 days after a storm event or when plant overflow volumes occupy the required pond volume.

During the mid-term permit renewal site visit the sediment pond water levels were observed to be in excess of the stipulated pond volume. Beaver Creek Coal Company is advised that they are subject to enforcement action if the C. V. Spur permit terms are not met. To allow for pond discharges, the company may want to consider applying for a NPDES permit change. (At present BCCC is under a non-discharge permit).

UMC 817.86 Coal Processing Waste: Burning (PGL)

On page 3-17, the applicant stated that "once a fire is extinguished, a layer of combustible material at least 18 inches thick will be placed over the burned material...". This should read incombustible material. Please submit a corrected page 3-17.

UMC 817.100 Contemporaneous Reclamation (KMM)

Miscellaneous disturbed areas should be revegetated as either interim or final reclamation, e.g., sewage leach field and old drill seeded area. Incorporation of this activity into the revegetation test program would be desirable.

UMC 817.111 Revegetation: General Requirements (KMM)

Revegetation efforts on topsoil and subsoil stockpiles and miscellaneous disturbed areas indicates that revegetation of the native shale soils may be extremely difficult. In order to determine what materials and methods will yield successful revegetation, the operator should initiate field test areas during the 1987 field season. Division soils and vegetation personnel would like to work with Beaver Creek Coal Company to have a testing program designed by March 1987. In order to achieve this, Beaver Creek Coal Company is requested to meet with Division representatives in February 1987 to work out the design aspects of the test areas. Elements of a testing program should include:

1. adapted species including natives and introduced
2. textural amendments including coal refuse, sewage sludge, hay or straw
3. chemical amendments
4. mulch
5. seeding techniques
6. irrigation and/or water conservation techniques

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

State Office Building · Salt Lake City, UT 84114 · 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

October 31, 1984

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: Stipulation Responses, C. V. Spur Preparation Plant, ACT/007/022, #2 and #4, Carbon County, Utah

This letter is to apprise you that the responses to the C. V. Spur Preparation Plant Stipulations 817.46-(1-2)-JW and 817.48-(1)-JW forwarded by Beaver Creek Coal Company to the Division on September 5, 1984 have been reviewed by the Division staff and are complete and adequate.

Thank you for your cooperation in this matter.

Sincerely,

Mary M. Boucek

Mary M. Boucek
Permit Supervisor/
Reclamation Biologist

JW/btb
cc: Allen Klein
Robert Hagen
John Whitehead
Ken Wyatt
92940-20

STIPULATIONS DOCUMENT

Beaver Creek Coal Company
C. V. Spur Preparation Plant
ACT/007/022, Carbon County, Utah

July 13, 1984

Stipulations 817.46-(1-2)-JW

1. The applicant must commit in writing, within 30 days of permit approval, to re-establishing the 10-year, 24-hour storm runoff detention volumes in all sediment ponds within 30 days after a storm event or when plant water overflows occupy any of the volume needed to contain the 10-year, 24-hour storm event.

2. The applicant must submit, within 30 days of permit approval, either: (1) revised drawings and calculations demonstrating that pond #6 can contain the 10-year, 24-hour storm runoff volume and one year of sediment volume; or (2) complete plans including cross-sections and supporting calculations to increase the size of pond #6 to contain the 10-year, 24-hour storm runoff volume and one year of sediment volume.

Stipulations 817.48-(1)-JW

1. The applicant shall submit once each year, by January 1, to the regulatory authority a chemical analysis of each individual coal seam that will be or is being processed in the cleaning plant. The analysis shall depict pH, percent sulphur, and neutralization potential as tons of (Ca, Co_3) equivalent per 1,000 tons of material.

   In addition, on an annual basis, by January 1, the applicant will submit analysis of refuse material from a representative sampling of the refuse disposal area depicting the previously mentioned constituents.

77220

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Gov
Temple A. Reynolds, Executive Di
Dianne R. Nielson, Ph.D., Division Di

41 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

August 6, 1984

Mr. J. A. Herickhoff
General Manager
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Herickhoff:

RE: State Permit Approval, C. V. Spur Preparation Plant, ACT/007/022, #2, #4 and #6, Carbon County, Utah

The Division has received Beaver Creek Coal Company's written acceptance of Stipulations regarding the Division's Final Technical Analysis and Decision Document for Beaver Creek Coal Company's C. V. Spur Preparation Plant, thereby indicating that Beaver Creek Coal Company will comply with all conditions and time frames set forth in the permit. A signed and executed bond in the amount of $2,017,669.00 and payable to the State of Utah has also been received.

Therefore, the State of Utah hereby issues Final Permit Approval for the C. V. Spur Preparation Plant at this time. Consider this letter to be the Permanent Coal Regulatory Program Permit for the above-referenced operation. This permit is issued in conjunction with the additional permit conditions required by the Utah Coal Mining and Reclamation Permanent Program, Chapter 7 (UCA 40-10-1 et seq.), Section UMC 786.29 (appended to this letter). Please assure that all conditions with time deadlines for completi are fulfilled utilizing this date, August 6, 1984, as the permit approval date.

The Division greatly appreciates the cooperation and enthusiasm your staff has shown in working with us during the permitting process, and we look forward to dealing with your company in the future.

Best Regards,

Dianne R. Nielson
Director

DRN/MMB:btb
cc: Allen Klein, OSM, Denver
Robert Hagen, OSM, Albuquerque
Ron Daniels, DOGM
Jim Smith, DOGM
Mary Boucek, DOGM
Joe Helfrich, DOGM
John Whitehead, DOGM
88130-41 & 42

NOTICE OF DECISION

To Whom It May Concern:

Pursuant to the Utah Coal Mining and Reclamation Act (Utah Code Annotated 1953, Section 40-10-1 et seq.), and the "Regulations Pertaining to Surface Effects of Underground Coal Mining Activities" (Final Rules of the Utah Board of Oil, Gas and Mining), the Utah Division of Oil, Gas and Mining has issued a permit to process coal to Beaver Creek Coal Company for its permit application No. ACT/007/022. The Company will process coal in accordance with the approved Mining and Reclamation Plan for the C. V. Spur Preparation Plant which is a coal loadout and preparation facility located on the following lands:

Township 15 South, Range 10 East, SLBM
Section 11: W1/2 SW1/2, NE1/4 SW1/4, except East 100,
SE1/2 SW1/4, except East 100.

This permit was approved by the Utah Division of Oil, Gas and Mining on August 6, 1984. A copy of the permit, the decision document and Technical Analysis is on file at the following location:

Utah Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114
Telephone: (801) 533-5771

Anyone having comments pertaining to the C. V. Spur Preparation Plant should contact Dr. Dianne R. Nielson, Director, Utah Division of Oil, Gas and Mining.

01000-1

NO. ACT/007/022

Notice was sent to the following:

Newspapers: Newspaper Agency Corporation
Sun Advocate

Mr. Dan Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Betty J. Baiela
September 7, 1984

01000-4

C.V. SPUR

1986

REFUSE PILE

INSPECTIONS / ANALYSES

REFUSE PILE INSPECTION REPORT

MSHA SITE #1211-UT-9-0034 C.V. SPUR QUARTER 4/86

ITEM	REMARKS
(1) Potential Safety Hazards	NONE
(2) Slope Stability	STABLE
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K.
(5) Recommendations	Monitoring Well CV-6W should be extended to allow for blending of refuse areas.

I have performed the above inspection on this refuse pile and do hereby certify it to be a true and accurate representation of the pile at this time.

REGISTERED PROFESSIONAL ENGINEER No. 4548 DAN W. ELY STATE OF UTAH

Registered Professional Engineer

12/22/86
Date

REFUSE PILE INSPECTION REPORT

MSHA SITE #1211-UT-9-0034 C.V. SPUR QUARTER 3/86

ITEM	REMARKS
(1) Potential Safety Hazards	NONE
(2) Slope Stability	STABLE
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K. - Compaction Good.
(5) Recommendations	Continue Filling around Pond. WATCH NOT TO GET MATERIAL IN POND

I have performed the above inspection on this refuse pile and do hereby certify it to be a true and accurate representation of the pile at this time.

Registered Professional Engineer

REGISTERED PROFESSIONAL ENGINEER
No. 4548
DAN W. GUY
Date 9/25/86
STATE OF UTAH

REFUSE PILE INSPECTION REPORT

MSHA SITE #1211-UT-9-0034 C.V. SPUR QUARTER 2/86

ITEM	REMARKS
(1) Potential Safety Hazards	NONE
(2) Slope Stability	STABLE
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K.; Compaction looks good. Dress up area near soil pile on west end.
(5) Recommendations	Watch Compaction Carefully.

I have performed the above inspection on this refuse pile and do hereby certify it to be a true and accurate representation of the pile at this time.

REGISTERED PROFESSIONAL ENGINEER
No. 4548
DAN W. GUY
STATE OF UTAH

Registered Professional Engineer

Date 6/30/86

REFUSE PILE INSPECTION REPORT

MSHA SITE #1211-UT-9-0034 C.V. SPUR QUARTER 1/86

ITEM	REMARKS
(1) Potential Safety Hazards	NONE
(2) Slope Stability	STABLE
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K., except - Sub-standard area needs to be compacted at east end.
(5) Recommendations	Watch compaction carefully. Build up area around Pond 5, Knock down and compact any piles or lose material.

I have performed the above inspection on this refuse pile and do hereby certify it to be a true and accurate representation of the pile at this time.

Dan W. Guy
Registered Professional ~~Engineeer~~

3/26/86
Date

REFUSE PILE ANALYSIS

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • (312) 953-9300
SINCE 1908
Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
224 SO. CARBON AVE., PRICE, UT 84501
TELEPHONE: (801) 637-7540

BEAVER CREEK COAL CO.
P.O. Box 1378
Price, Utah 84501

February 27, 1987

Sample identification
by Beaver Creek Coal Co.

No. 7 Mine
Substandard

Kind of sample reported to us: Coal

Sample taken at: C V Spur

Sample taken by: Beaver Creek Coal Co.

Date sampled: 2-23-87

Date received: 2-23-87

Analysis report no. 57-23183

SHORT PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	10.37	xxxxx
% Ash	44.57	49.73
Btu/lb	5978	6670
% Sulfur	0.54	0.60

% Air Dry Loss =	8.29
Moisture, Ash-free Btu =	13268
Pounds of SO2 per 10^6 Btu =	1.80
Moist, Mineral matter free Btu * =	11540
(Based on as rec'd moisture)*	
Pounds of Sulfur per 10^6 Btu =	0.90
% Residual moisture =	2.27

Neutralization Potential = 30.0 tons of Calcium Carbonate
Equivalent to 1000 tons of Material.
pH = 7.6 Standard Units

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

DP/sm

Manager, Price Laboratory

TYPICAL COAL ANALYSIS

NO. 7 MINE - CASTLE GATE "A" SEAM

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • (312) 953-9300

SINCE 1906

Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
224 SO. CARBON AVE., PRICE, UT 84501
TELEPHONE: (801) 637-7540

BEAVER CREEK COAL CO.
P O Box 1378
Price, Utah 84501

April 14, 1986

Sample identification by Beaver Creek Coal Co.

Coal Sample #2

Kind of sample reported to us	Coal
Sample taken at	xxxx
Sample taken by	Beaver Creek Coal Co.
Date sampled	4-2-86
Date received	4-2-86

Analysis report no. 57-21112

SHORT PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	8.48	xxxxx
% Ash	10.94	11.95
Btu/lb	11726	12813
% Sulfur	0.54	0.59

% Air Dry Loss =	5.79
Moisture, Ash-free Btu =	14552
Pounds of SO2 per 10^6 Btu =	0.92
Moist, Mineral matter free Btu * =	13311
(Based on as rec'd moisture)*	
Pounds of Sulfur per 10^6 Btu =	0.46
% Residual moisture =	2.86

Parameter	
pH, s.u.	7.6
Neutralization Potential, tons $CaCO_3$/1000 tons material	11.12

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Price Laboratory

Original Copy Watermarked For Your Protection

WH/sm

Charter Member

C.V. SPUR

MODIFICATIONS / AMENDMENTS

BEAVER CREEK Coal Company
Post Office Box 1378
Price, Utah 84501
Telephone 801 637-5050

March 16, 1987

Mr. D. Wayne Hedberg
Permit Supervisor
Utah Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Water Monitoring Amendment
C.V. Spur Preparation Facility
Act/007/002-862, #3
Carbon County, Utah

Dear Mr. Hedberg:

In response to your letter of 2/3/87, Beaver Creek Coal Company is providing the following information pertaining to the stipulations:

General - The following wells will be deleted from the plan:
CV-2-W
CV-7-W
CV-8-W
CV-9-W
CV-13-W

(1) The deleted wells will be capped and left in place for possible future use;

(2) Boron and flouride were sampled in 1977-1979. Since 1979, only flouride has been sampled periodically. Available data is shown in Table 7-4 of the M.R.P., where the baseline parameters (11/09/77-4/21/79) are summarized for the groundwater, represented by the French Drain inflow.

Table 7-15 will be replaced with the proposed Water Monitoring Report upon approval.

(3) The following wells will be monitored on a bi-annual basis:

CV-0-W (Ditch)	CV-6-W
CV-1-W	CV-10-W
CV-3-W	CV-11-W
CV-4-W	CV-12-W
CV-5-W	CV-14-W (Ditch)

(4) All wells were recently air flushed and depths were provided to the Division. No reddish-brown color was noted during the flushing of CV-3, 4 and 12, and recent samples do not indicate excessive iron values.

(5) The samples will be collected in the spring and fall of each year, and results will be provided to the Division bi-annually, on the proposed "Water Monitoring Report" form in the amendment plan.

If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy,
Manager Permitting/Compliance

DWG/rs

cc: Jay Marshall
File

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 3, 1987

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: Initial Review of MRP Amendment, Request to Amend Water Monitoring Plan, Beaver Creek Coal Company, C.V. Spur Plant, ACT/007/022-86A, Folder No. 3, Carbon County, Utah

The Division has completed its review of Beaver Creek Coal Company's submittal concerning proposed water monitoring changes (received December 18, 1986). While the proposed plans are generally acceptable, several concerns must be addressed before final approval can be granted.

The attached technical memorandum identifies the specific conditions which must be addressed in writing before the permitting process can continue. If possible, please provide a response to these concerns by February 26, 1987.

Thank you for your patience and cooperation in this matter. If you should have any questions or concerns, please contact me or Jim Fricke.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor/
Reclamation Hydrologist

DMW:djh
Enclosure
cc: A. Klein
L. Braxton
J. Whitehead
J. Fricke
0851R/38

February 3, 1987

TO: Coal File

FROM: James R. Fricke, Reclamation Hydrologist JRF

RE: MRP Amendment, Request to Amend Water Monitoring Plan, C.V. Spur Loadout, ACT/007/022, Folder #3 and #9, Carbon County, Utah

Beaver Creek Coal Company has submitted a MRP Amendment Plan dated 12/9/86 for the water monitoring program. The operator intends to follow DOGM water monitoring guidelines as adopted in January, 1986. The operator will follow operational sample parameters. The BCCC will collect the aforementioned parameters on a bi-annual basis. The proposed amendment will delete the following wells from the monitoring plan.

CV-2-W
CV-7-W
CV-8-W
CV-9-W
CV-13-W

The Division agrees with the following stipulations:

1. The operator shall not abandon the wells. The wells should be sealed with a removable cap. The Division may request periodic sampling of these wells if a trend in reduced water quality and quantity is noted for other monitored wells in the vicinity of the discontinued monitor wells. If these wells are monitored in the future, the Division may request that the wells be air or water flushed down to the original total depth as noted in Table 7-1 of the MRP.

2. Table 7-15 in the MRP denotes water quality parameters to be sampled. Data on file with the Division does not agree with the list in Table 7-15. The operator needs to provide water quality data for fluoride and boron.

If the operator cannot submit sufficient baseline data for fluoride and boron, then said data must be collected and these parameters incorporated into the Water Monitoring Report.

The operator will be monitoring the following wells:

CV-0-W (Ditch)
CV-1-W
CV-3-W
CV-4-W
CV-5-W
CV-6-W
CV-10-W
CV-11-W
CV-12-W
C -14-W (Ditch)

The Division requests that BCCC check each well for total depth footage. Monitor wells that are not currently at the original total depth will be air or water flushed to achieve the original total depth. The air flush program should be completed before adopting the new water monitoring program.

Recent review of the C.V. Spur monitoring report has noted high values of iron for CV-3, 4, and 12. The operator should air flush these wells and sample for iron. This can be achieved by noting the color of the air flush or bailed water. If the water is reddish-brown in color (denoting iron content) the operator should collect a sample and perform a lab analysis for iron, pH, TSS and conductivity.

Finally, the operator must commit to the data report form in the amendment plan and commit to collecting the data in the spring and fall of each year. The complete form must be submitted to the DOGM office on a bi-annual schedule.

djh
cc: J. Whitehead
0798R/13

Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501
Telephone 801 637-5050

January 21, 1986

Mr. D. Wayne Hedberg
Permit Supervisor
Division of Oil, Gas, & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: Incidental Boundary Change
C.V. Spur
ACT/007/022, #3 & #4
Carbon County, Utah

Dear Mr. Hedberg:

Enclosed please find 8 copies of the complete set of plans per your request. I have provided revised maps for the permit area, and a new figure showing the Quitclaim Deed for the excluded piece of property. Please insert the new maps and add the new figure to the appropriate places in the M.R.P.

I appreciate your prompt action in granting this approval. If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy
Manager of Permitting and Compliance

DWG/sb

Enclosures

cc: Jay Marshall (BCCC)
Reece Wilberg (BCCC)
File 4-P-4-1-5
File 4-P-4-1-6-1
IBM D3

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

3 North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

January 10, 1986

CERTIFIED RETURN RECEIPT REQUESTED
(P402 457 289)

Mr. Dan M. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: Approval of Application for MRP Permit Amendment, Incidental Boundary Change, Beaver Creek Coal Company, C. V. Spur, ACT/007/022, #3 and #4, Carbon County, Utah

The application for the Mining and Reclamation Plan (MRP) permit amendment submitted by Beaver Creek Coal Company on December 5, 1985 for an incidental boundary change at the Castle Valley Preparation Plant has been reviewed by the Division. The proposed plans are acceptable and approval is hereby granted by the Division. Eight (8) copies of the complete set of plans should be submitted in a format allowing direct insertion into the appropriate section of the approved MRPs currently on file with the regulatory agencies.

Please provide these additional copies by February 3, 1986 to complete the approval for this amendment.

Thank you for your cooperation in this matter. Please contact me or Dave Hooper should you have questions.

Sincerely,

D. Wayne Hedberg
Permit Supervisor/
Reclamation Hydrologist

DH/btb
cc: Allen Klein
Lowell Braxton
0338R-8

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

November 19, 1985

CERTIFIED RETURN RECEIPT REQUESTED
(P402 457 265)

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: Approval of MRP Amendment, Operator Request to Extend Perimeter of Refuse Disposal Area #2, C. V. Spur, ACT/007/022, #3 and #4, Carbon County, Utah

The revised application for Mining and Reclamation Plan (MRP) permit amendment plans submitted by Beaver Creek Coal Company on November 14, 1985 have been reviewed by the Division. The revised plans are acceptable and approval is hereby granted by the Division to proceed with implementation. Please provide an additional five copies of the approved plans for transmittal to the appropriate regulatory agencies.

Thank you for your cooperation in this matter. Please contact me or Dave Wham should you have any questions or concerns.

Sincerely,

D. Wayne Hedberg
Permit Supervisor/
Reclamation Hydrologist

REVIEW CHRONOLOGY

A. Operator Submittals
   1. October 3, 1985
   2. November 14, 1985

B. DOGM Responses
   1. October 28, 1985
   2. November 19, 1985

DMW/btb
cc: Allen Klein
Lowell Braxton
Joe Helfrich
John Whitehead
0505R-7

Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501
Telephone 801 637-5050

December 4, 1985

Mr. D. Wayne Hedberg
Permit Supervisor
Division of Oil, Gas, & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: Additional Copies
M.R.P. Amendment
C.V. Spur
ACT/007/022, #3 & #4
Carbon County, Utah

Dear Mr. Hedberg:

Pursuant to your request in the November 19, 1985 letter of approval, please find enclosed five (5) additional copies of the approved plan.

Thank you and Dave Wham for your cooperation in this matter. If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy
Manager of Permitting and Compliance

DWG/sb

Enclosures

cc: Jay Marshall (BCCC)
File 4-P-4-1-5
File 4-P-4-1-6-1
IBM D3

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

5 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 21, 1985

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: MRP Amendment, New Upgraded Spray Tank/Pump Shed, C. V. Spur, ACT/007/022, #3 and #4, Carbon County, Utah

As discussed in our phone conversation of June 12, 1985 and in the letter received June 17, 1985 which discusses the proposed replacement of the spray tank/pump shed building which is located adjacent to the silo at the C. V. Spur loadout facility.

Beaver Creek Coal Company (BCCC) proposes to replace an existing shed that houses the spray pumps and panels with a larger new shed which will enclose the same facilities in addition to the tank which is presently located immediately adjacent to the spray pumps and panels and is not covered. The new shed will cover both the pumps and the tank, it will have a small footer and two doors. The floor will be gravel. The tank and pumps are used for dust control (encrusting) agents sprays for the rail cars as they are loaded in the silo.

This change is considered to be minor and as a consequence will not necessitate any changes in drainage, bonding or location of surface facilities. The Division hereby approves the request for change in the new storage shed and the Company is directed to proceed with the proposed plans for change.

If you have any questions pertaining to this approval, please contact me at your earliest convenience.

Sincerely,

Lowell Braxton for

D. Wayne Hedberg
Permit Supervisor/
Reclamation Hydrologist

btb
cc: Allen Klein
Lowell Braxton
John Whitehead
Tom Wright
8992R-102 & 103

Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501
Telephone 801 637-5050

June 13, 1985

Mr. D. Wayne Hedberg
Permit Supervisor
Division of Oil, Gas, and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: C.V. Spur
ACT/007/022
Carbon County, Utah

Dear Mr. Hedberg:

Per our phone conversation of June 12, 1985, I have enclosed a map showing the location of the proposed new spray tank/pump shed to be placed adjacent to our silo.

This shed will replace a smaller, existing shed that houses the spray pumps and panels; the tank is not enclosed at this time. The proposed shed will cover both the pumps and the tank. It will have a small footer and 2 doors; the floor will be gravel. The tank and pumps are used for the dust control (encrusting) agent sprays for the railcars as they are loaded in the silo. This proposal will not necessitate any changes in drainage, bonding, or location of surface facilities.

I hope you will agree with this proposal. If you have any questions, please let me know.

Respectfully,

Dan W. Guy
Manager of Permitting and Compliance

DWG/sb

cc: Bert Jeanselme
File 4-P-4-1-5
File 4-P-4-1-6-1
IBM D1